

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. (Amended) A method for transmitting a data stream between a host controller and a peripheral device over an extended distance; said method comprising:

5       a. feeding a first original, outgoing digital signal from a host controller to a local expander unit;

      [b. optionally converting said outgoing digital signals into a converted outgoing signal having a format suitable for transmission over extended distances;]

10       b. [c.]       transmitting [either] said outgoing digital signal [or said converted outgoing signal,] as a outgoing transmission signal, over a signal distribution system;

c. [d.]       receiving said outgoing transmission signal at a remote expander unit;

      [e. optionally converting said outgoing transmission signal to said first original outgoing digital signal;]

15       d. [f.]       delivering said first original outgoing digital signal from said remote expander to at least one peripheral device;

e. [g.]       receiving, at said remote expander, a reply digital signal from said peripheral device;

      [h. optionally converting said reply digital signal into a converted reply signal having a format suitable for transmission over extended distances;]

20       f. [i.]       transmitting said reply digital signal [or said converted reply signal] as a reply transmission signal over said signal distribution system;

g. [j.]       receiving said reply transmission signal at said local expander;

      [k. optionally converting said reply transmission signal to said original reply digital signal;]

25       h. [l.]       storing said reply digital signal as a stored reply digital signal until the receipt of a subsequent original, outgoing digital signal from said host controller, which subsequent signal is the same as, or similar to, said first original outgoing digital signal; and

i. [m.]       forwarding said stored reply digital signal to said host controller in response to said subsequent original outgoing digital signal.

30       2.       A method as claimed in Claim 1 wherein said data stream is a time relevant data stream.

      3.       A method as in claim 2 wherein said digital signals conform to the USB Specification and represent isochronous data.

4. A method as claimed in Claim 3 wherein said method provides a method for transmission of isochronous data according to the USB Specification wherein isochronous data is transmitted from a peripheral device and is received by a host controller, said method comprising:

- 5 a. transmitting a request for isochronous data from a host controller to a local expander;
- b. forwarding said request for isochronous data from said local expander to a remote expander over a signal distribution system;
- c. delivering said forwarded request for isochronous data to at least one peripheral device;
- 10 d. transmitting the requested isochronous data from said peripheral device to said remote expander;
- e. forwarding said requested isochronous data from said remote expander to said local expander over said signal distribution system;
- f. storing said requested isochronous data in a packet buffer at said local expander;
- 15 g. transmitting a subsequent request for isochronous data from said host controller to said local expander;
- h. receiving said subsequent request for isochronous data at said local expander; and
- I. retrieving the stored isochronous data from said local expander;
- II. delivering said stored isochronous data to said host controller;
- III. forwarding said subsequent request for isochronous data from said local
- 20 expander to said remote expander over said signal distribution system; and
- IV. repeating steps (c) through (h) for said subsequent request and any further subsequent requests for isochronous data.

5. (Amended) A method as claimed in Claim 3 wherein said method provides a method for transmission of isochronous data according to the USB Specification wherein isochronous data is transmitted from a host controller and is received by a peripheral device, said method comprising:

- 25 a) receiving, at a local expander, an original notification of isochronous a host controller;
- b) forwarding said original notification of isochronous data from said local
- 30 expander to a remote expander over a signal distribution system;
- c) receiving, at a remote expander, said forwarded original notification of isochronous data;
- d) delivering said forwarded notification of isochronous [asynchronous] data to at least one peripheral device;

c) means for sending said stored inbound signal to said host controller in response to said subsequent request.

33. An apparatus as claimed in Claim 26 wherein said extended distance exceeds 5 meters.

5 34. An apparatus as claimed in Claim 26 wherein said extended distance exceeds 30 meters.

35. An apparatus as claimed in Claim 26 wherein said extended distance is equal to or exceeds 100 meters.

10 36. An apparatus as claimed in Claim 26 wherein said signal distribution system utilizes unshielded twisted pair (UTP) wiring.

37. An apparatus as claimed in Claim 26 wherein said signal distribution system utilizes fibre optic cabling.

38. An apparatus as claimed in Claim 26 wherein said signal distribution system utilizes wireless transmission.

15 39. An apparatus as claimed in Claim 26 wherein said host controller is a PC, and said peripheral devices is a camera, a mouse, a keyboard, a monitor or a speaker or speakers.

40. (New) A method for transmitting a data stream between a host controller and a peripheral device over an extended distance; said method comprising:

20 a. feeding a first original, outgoing digital signal from a host controller to a local expander unit;

b. converting said outgoing digital signals into a converted outgoing signal having a format suitable for transmission over extended distances;

c. transmitting either said outgoing digital signal, as a outgoing transmission signal, over a signal distribution system;

25 d. receiving said outgoing transmission signal at a remote expander unit;

e. converting said outgoing transmission signal to said first original outgoing digital signal;

f. delivering said first original outgoing digital signal from said remote expander to at least one peripheral device;

g. receiving, at said remote expander, a reply digital signal from said peripheral device;

- h. converting said reply digital signal into a converted reply signal having a format suitable for transmission over extended distances;
- i. transmitting said converted reply signal as a reply transmission signal over said signal distribution system;
- 5 j. receiving said reply transmission signal at said local expander;
- k. converting said reply transmission signal to said reply digital signal;
- l. storing said reply digital signal as a stored reply digital signal until the receipt of a subsequent original, outgoing digital signal from said host controller, which subsequent signal is the same as, or similar to, said first original outgoing digital signal; and
- 10 m. forwarding said stored reply digital signal to said host controller in response to said subsequent original outgoing digital signal.